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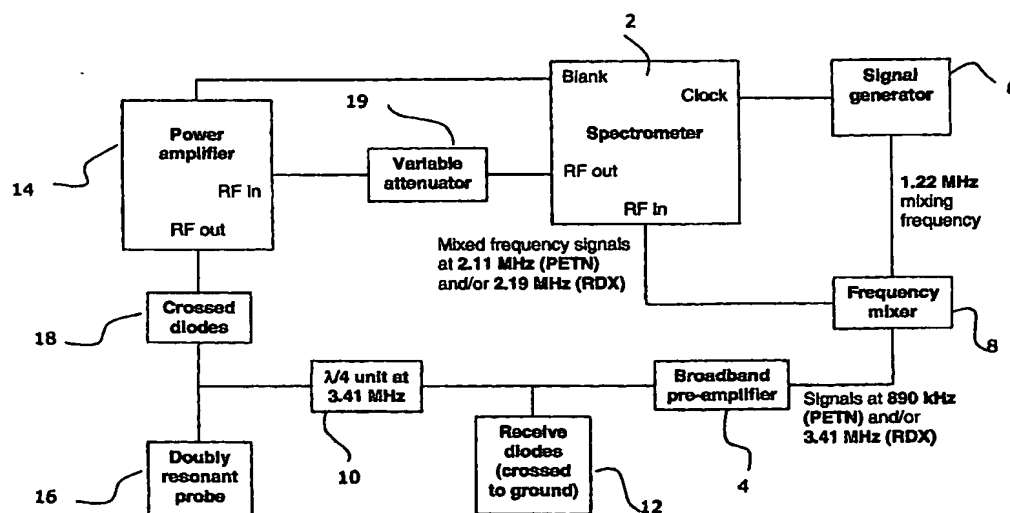
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(54) Title: **NUCLEAR QUADRUPOLE RESONANCE INSPECTION SYSTEM**



(57) Abstract: A multi-resonant nuclear quadrupole resonance (NQR) inspection system is disclosed. The system comprises a multi-resonant circuit 16 tuned to simultaneously transmit and receive a plurality of signals. The receiver circuit comprises passive circuit protection in the form of a lumped element quarter-wave unit 10 and a signal generator 6 and frequency mixer 8 are used to modify the return signals in order to facilitate signal monitoring. The system has been shown to simultaneously detect RDX and PETN.

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